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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,777	05/12/2002	Ju-Yung Lin	ALIP0004USA	1066

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EXAMINER	
CHANG, JULIAN	
ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/063,777	LIN, JU-YUNG	
	Examiner	Art Unit	
	Julian Chang	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *05/15/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-13 have been examined.

Specification

2. The use of the trademark WINDOWS has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

3. Claims 6 and 12 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4-6, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Universal Serial Bus Specification revision 2.0, hereinafter referred to as "USB Specification".

5. Regarding claim 1, USB Specification teaches a terminator for a universal serial bus (USB) port, the USB port comprising:

a D- signal line (page 94, Table 6-1);

a D+ signal line (page 94, Table 6-1); and

a ground line (page 94, Table 6-1);

the terminator comprising:

an electrically non-conductive member adapted for mechanically mating with the USB port ('Receptacle Injection Molded Thermoplastic Insulator Material', page 97, line 1; Plug Injection Molded Thermoplastic Insulator Material', page 9101, line 1); and

at least an electrical contact disposed on a surface of the electrically non-conductive member for electrically tying the D- line or the D+ line to the ground line ('The line terminations for high-speed operation are created by having this driver drive D+ and D- to ground', page 122, Table 7-1, lines 7-8 of Description of Element 'Low-/full-speed Driver'; Also, Figure 7-1 shows D+ and D- data lines connected to GND via pull-down resistors R_{pd}.).

6. Regarding claims 4, and 5, USB Specification teaches a mode switching method for a universal serial bus (USB) device, the method comprising:

providing power to the USB device ('host supplies power for use by USB devices that are directly connected', page 18, section 4.3.1, lines 2-3);

detecting whether the D- line or the D+ line of a USB port of the USB device is grounded ('Detecting the attachment and removal of USB devices', page 24, section 4.9, line 4); and

switching the operational mode of the USB device, the USB device entering into a predefined mode ('Test mode of a port is entered by using a device specific standard request', page 170, lines 9-11) when the D- line or the D+ line of the USB port is grounded (USB Specification teaches this inherently. On page 141, Fig. 7-20 shows D+ line being set high by a pull-up resistor to identify a full-speed device, and Fig. 7-21 shows the D- line being set high using

a pull-up resistor to identify a low-speed device. The data line not pulled up using the pull-up resistor remains grounded.).

7. Regarding claim 6, USB Specification teaches the invention substantially as claimed and described in claim 4 above, including having a terminator mate with a USB port (page 95-96, Figs. 6-7 and 6-8).

8. Regarding claim 7, USB Specification further teaches providing power to the USB device either from a USB host or from a separate power supply ('The host supplies power for use by USB devices that are directly connected. In addition, any USB device may have its own power supply', page 18, section 4.3.1, lines 2-3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over USB Specification as applied to claim 1 above, and further in view of what was well known in the art at the time of Applicant's invention.

10. Regarding claim 2, USB Specification teaches the invention substantially as described and claimed in claim 1 above including a terminator wherein the electrically non-conductive member is a cap ('Receptacle Injection Molded Thermoplastic Insulator Material', page 97, line 1), but fails to explicitly teach a male USB port.

Official Notice (see MPEP ' 2144.03 Reliance on "Well Known" Prior Art) is taken that the use of a male USB port was well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to employ a male USB port with motivation to enable a system to mate with female USB caps.

11. Regarding claim 3, USB Specification teaches the invention substantially as described and claimed in claim 1 above including a terminator wherein the electrically non-conductive member is a plug ('Plug Injection Molded Thermoplastic Insulator Material', page 9101, line 1), but fails to explicitly teach a female USB port.

Official Notice (see MPEP ' 2144.03 Reliance on "Well Known" Prior Art) is taken that the use of a female USB port was well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to employ a female USB port with motivation to enable a system to mate with male USB plugs.

12. Claims 8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USB Specification, and further in view of Dickens, et al (U.S. Patent 6,549,966), hereinafter referred to as "Dickens".

13. Regarding claim 8, USB Specification teaches a mode switching method for a universal serial bus (USB) device, the method comprising:

providing power to the USB device ('host supplies power for use by USB devices that are directly connected', page 18, section 4.3.1, lines 2-3);

providing a detection circuit for detecting when a first USB port of the USB device is electrically connected to a first USB host and for detecting when a second USB port of the USB device is electrically connected to a second USB host ('Detecting the attachment and removal of USB devices', page 24, section 4.9, line 4);

providing a USB control circuit for setting an operational mode of the USB device according to the detection circuit, the USB control circuit supporting at least a first operational mode and a second operational mode ('high-speed capable functions must support the following test modes', page 169, section 7.1.20, lines 2-3).

USB Specification fails to teach:

the USB control circuit entering into the first operational mode when the detection circuit determines that the first USB port is electrically connected to the first USB host and the second USB port is not electrically connected to the second USB host; and

the USB control circuit entering into the second operational mode when the detection circuit determines that the first USB port is electrically connected to the first USB host and the second USB port is electrically connected to the second USB host.

However, Dickens, in the same field of endeavor, teaches a USB device that acts as a differently when connected to one computer, as opposed to a plurality of computers. When connected to one computer, the device allows for the communication between the computer and connected USB peripherals ('serial data routing device for use in routing serial data between a computer and a peripheral device', col. 1, lines 64-65). When connected to a plurality of computers, the device allows the plurality of computers to share connected USB peripherals (col. 2, lines 42-45), including bi-directional data streams (col. 5, lines 62-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the peripheral sharing system of Dickens in the USB system of USB Specification with motivation to enable a plurality of computers to share peripherals, reducing costs.

14. Regarding claim 11, USB Specification-Dickens teaches the invention substantially as described and claimed in claim 8 above, including

detecting whether the D- line or the D+ line of a USB port of the USB device is grounded (USB Specification: 'Detecting the attachment and removal of USB devices', page 24, section 4.9, line 4); and

switching the operational mode of the USB device, the USB device entering into a third operational mode (USB Specification: 'Test mode of a port is entered by using a device specific standard request', page 170, lines 9-11) when the D- line or the D+ line of the USB port is grounded (USB Specification teaches this inherently. On page 141, Fig. 7-20 shows D+ line being set high by a pull-up resistor to identify a full-speed device, and Fig. 7-21 shows the D- line being set high using a pull-up resistor to identify a low-speed device. The data line not pulled up using the pull-up resistor remains grounded.).

15. Regarding claim 12, USB Specification-Dickens teaches the invention substantially as described and claimed in claim 8 above, including having a terminator mate with a USB port (USB Specification: page 95-96, Figs. 6-7 and 6-8), and switching the mode of a USB device when a terminator is mating with the USB port of the USB device (USB Specification: 'Test mode of a port is entered by using a device specific standard request', page 170, lines 9-11; Although not explicitly noted, the USB device must be mating with a terminator in order to receive a device specific request.).

16. Regarding claim 13, USB Specification-Dickens teaches the invention substantially as described and claimed in claim 8 above, including providing power to the USB device either from a USB host or from a separate power supply (USB Specification: 'The host supplies power for use by USB devices that are directly connected. In addition, any USB device may have its own power supply', page 18, section 4.3.1, lines 2-3).

17. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USB Specification-Dickens as applied to claim 8 above, and further in view of Wahl, et al (U.S. Patent 6,415,342), hereinafter referred to as "Wahl".

18. Regarding claim 9, USB Specification-Dickens teaches the invention substantially as described and claimed in claim 8 above. USB Specification fails to teach the utilization of a USB VBUS line in the first USB port to determine electrical connectivity to the first USB host, and utilization of a USB VBUS line in the second USB port to determine electrical connectivity to the second USB host.

However, Wahl, in the same field of endeavor, teaches a USB device determining its connectivity based on the voltage of a USB VBUS line (col. 4, lines 6-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of a USB VBUS line to detect electrical connectivity in the USB system of USB Specification-Dickens with motivation to

enable a USB device to initiate a reset of the USB connection, allowing a connected USB host to reinitialize communications.

19. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over USB Specification-Dickens as applied to claim 8 above, and further in view of Siddappa (U.S. Patent 5,974,486).

20. Regarding claim 10, USB Specification-Dickens teaches the invention substantially as described and claimed in claim 8 above, but fails to teach the providing of shared FIFOs for the first operational mode and the second operational mode between the USB control circuit and the first USB host and the second USB host.

However, Siddappa, in the same field of endeavor, teaches the use of a common FIFO to support multiple endpoints (col. 2, lines 48-61).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the FIFO sharing method of Sippadda in the USB system of USB Specification-Dickens with motivation to enable a USB device to minimize the use of chip real estate and reduce costs.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. U.S. Patent 6,044,428 – Configurable USB node.

b. U.S. Patent 6,073,188 – Electronic Switchbox.

c. E.P. 1,102,171 A2 – USB network peripheral device.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Chang whose telephone number is (571) 272-8631. The examiner can normally be reached on Monday thru Friday 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER